IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF OHIO
WESTERN DIVISION

Nalco Company,	)	
	)	
Plaintiff,	)	Case No. 1:13-CV-661
	)	
vs.	)	
	)	
AP Tech Group, Inc.,	)	
	)	
Defendant.	)	

O R D E R

This matter is before the Court on Defendant AP Tech Group, Inc.'s motion for summary judgment (Doc. No. 32) and Plaintiff Nalco Company's motion to strike (Doc. No. 63). For the reasons that follow, Defendant's motion for summary judgment is well-taken and is **GRANTED;** Plaintiff's motion to strike is not well-taken and is **DENIED.** Plaintiff's complaint is **DISMISSED WITH PREJUDICE.** The two motions to modify and/or vacate the case management order (Doc. Nos. 75 & 76) are **MOOT**.

I. Background

This is a patent infringement case in which Plaintiff Nalco Company ("Nalco") alleges that Defendant AP Tech Group, Inc. ("AP Tech") has infringed U.S. Patent No. 6,685,840 ("the '840 Patent"). The '840 Patent, entitled "Method for Determining the Dissolution Rate of a Solid Water Treatment Product," is directed towards solving the problem of maintaining the proper concentration of a water treatment product in an industrial water system.

"Industrial water systems," the '840 Patent explains, "exist so that necessary chemical, mechanical and biological processes can be conducted to reach the desired

outcome." '840 Patent, col. 1, ll. 13-15. The background section lists numerous kinds of industrial water systems, but identifies a cooling water system as a "ubiquitous type" of system. A cooling water system is generally comprised of a cooling tower, heat exchangers, pumps and all of the piping needed to move the water through the system. Controlling a cooling water system involves "balancing the desire to operate the system at the highest concentration cycles possible without incurring detrimental scaling, corrosion, fouling or microbiological control patterns." '840 Patent, col. 1, ll. 34-41. Operators of cooling water systems use a number of chemicals to control these undesirable phenomena, such as polymers, phosphates, phosphonates, azoles, zinc, molybdate, biocides and other chemicals known to persons of ordinary skill in the art. Id. ll. 42-49.

The '840 Patent then explains that typically these chemicals are added to a water cooling system by formulating them into an aqueous liquid and then feeding them through a feed pump, an eductor feed system, or even manually. Water treatment product can also be added to the system through a "bleed/feed mechanism" in which a "blowdown," or release of water from the cooling tower, triggers a pump or valve that feeds product into the system. Alternatively, a timer can be used to periodically add treatment product to the system. The problem with these methods, however, is that they do not measure the actual amount of treatment product in the system. Thus, if there is a mechanical problem with the system, such as a pump failing, the correct concentration of treatment product is not maintained. Because these failures occur often, water cooling systems typically are overfed with treatment product to ensure that the level does not drop too low. Mechanical problems can also lead to the system being unknowingly underfed with treatment product.

Overfeeding and underfeeding are undesirable due to cost and performance drawbacks. '840 Patent, col. 1, ll. 50-67, col. 2, ll.1-9.

The '840 Patent then notes that fluorescent tracing chemicals can be added in a known proportion to the water treatment product. The fluorescent signal of the tracing chemical can be measured with a fluorometer to determine how much of the tracer is present. And, by knowing the amount of tracer present, the amount of water treatment product in the water cooling tower can be determined. The feed rate of the water treatment product in the system can then be adjusted to the desired amount. Id. col. 2, ll. 10-27. When the fluorescent signal of the tracer decreases, such as when water is released through a blowdown, a tracer control system can feed more water treatment product and tracer into the system. Id. ll. 28-42.

Another method involves using water treatment products with inherently fluorescent polymers or which have been "tagged" with a fluorescent moiety. In contrast to the tracing system, the fluorescent moieties are consumed in the course of treating the performance-related condition. The fluorescent signal of the tagged moiety is used to determine the amount of consumption of the moiety. That information can then be used to control the feeding of new treatment product into the system. Id. ll. 43-58.

The '840 Patent then explains that while liquid phase treatment programs have been favored because of their ease of use, they still present a number of drawbacks. For instance, they are still susceptible to mechanical problems, such as pump failures, which can lead to the system being underfed. Additionally, it may not be possible to combine different raw materials to achieve the desired product formulation. Moreover, liquid products may become unstable with time and temperature, leading to sedimentation or

segregation of the components within the delivery container. They are also susceptible to microbiological attacks. Again, all of these problems can lead to an undesirable level of treatment product in the system. '840 Patent, col. 2, ll. 59-67, col. 3, ll. 1-14.

One way to avoid the disadvantages of liquid phase treatment products is to use a solid treatment product. The specification notes that in the past, chromate solids were effective in controlling scaling and corrosion in water cooling systems even without concentration control or without regard to whether they dissolved completely. However, chromate-based water treatment products have been banned due to environmental and health concerns. Solid water treatment products are also limited because they need to be delivered into the system in the proper concentrations within the desired time frame. This in turn depends on the dissolution rate - the rate at which a solid dissolves into a solution - of the solid treatment product added to the system. Id. col. 3, ll. 15-44.

The '840 Patent purports to solve the problems heretofore with both liquid and solid water treatment products by inventing a method to provide a solid water treatment product with an optimal dissolution rate. "The optimal dissolution rate," the specification states, "is determined based on the general concept that it is desirable for pellets to completely dissolve prior to the addition of subsequent pellets to the water so that a relatively constant product concentration is maintained in the water of the industrial water system." '840 Patent, col. 9, ll. 1-7.

The specification goes on to explain that the optimal rate of dissolution is dependent on the solid water treatment product and the type of water treatment system being used but nevertheless is known to people of ordinary skill in the art. '840 Patent, col. 9, ll. 46-49. In other words, a person of ordinary skill in the art will know, based on his water system

and the treatment product he wants to use, the rate at which the treatment product must dissolve in order to maintain the desired concentration of product.

The '840 Patent discloses a trial and error method of providing a solid water treatment product with an optimal rate of dissolution. Basically stated, this involves mixing the water treatment compounds with a fluorescent tracer. The solid product is placed in test water which ideally will be representative of the water used in the industrial water system. Then, using a fluorometer, the fluorescent signal of the tracer is measured at regular intervals. A dissolution rate is then calculated by analyzing the increase of the fluorescent signal over time. If the measured dissolution rate matches the optimal dissolution rate, the method is optionally complete. If the actual dissolution rate is not optimal, the user of the method must start the process over by adjusting the formula and making a new batch of the water treatment product. The user then proceeds through the testing and measuring steps to ascertain whether the new batch achieves the optimal rate of dissolution. The user of the method continues on in this fashion until he finally achieves a solid water treatment product with the optimal dissolution rate. '840 Patent, col. 3, ll. 45-67, col. 4, ll. 1-17, col. 9, ll. 17-20.

The '840 Patent also claims two methods of using a solid water treatment product with an optimal rate of dissolution in an industrial water system. The first of these methods involves adding to the water system anywhere from 1 ppb to 10,000 ppm of a solid water treatment product with an optimal rate of dissolution and allowing it to dissolve. The second of these methods involves adding 1 ppb to 10,000 ppm of a solid water treatment product with an optimal rate of dissolution, allowing it to dissolve, measuring the fluorescent signal of the tracer, correlating the fluorescent signal with the amount of water treatment

product in the system, comparing the measured amount of water treatment product to the optimal amount of water treatment product, and then adjusting the feed rate of the solid water treatment product in the water system until it is optimal. '840 Patent, col. 10, ll. 1-67, col. 11, ll. 1-11.

The '840 Patent has three independent claims and six dependent claims. Independent claim 1 recites the method for providing a solid water treatment product with an optimal dissolution rate:

> A method of making a solid water treatment product, wherein said solid water treatment product has an optimal dissolution rate, comprising the steps of:
>
> 1) providing the ingredients to make a solid water treatment product, wherein said ingredients are selected from the group comprising:
>
> a) Active Ingredients;
>
> b) Optional Inactive Ingredients; and
>
> c) Fluorescent Tracer, wherein said Fluorescent Tracer is selected from the group consisting of inert fluorescent tracers and active fluorescent tracers; wherein said solid water treatment product consists essentially of from about 10% to about 99.99% of said Active Ingredients, from about 0% to about 98% of said Optional Inactive Ingredients and from about 0.01% to about 10% of said Fluorescent Tracer;
>
> 2) preparing the solid water treatment product;
>
> 3) placing the solid water treatment product in test water;
>
> 4) providing a fluorometer;
>
> 5) using said fluorometer to measure the fluorescent signal of said fluorescent tracer in said test water;
>
> 6) repeating the measurement of fluorescent signal from Step 5) at regular intervals;
>
> 7) determining the rate of dissolution of solid water treatment product by analyzing the increase in fluorescent signal measured in Step 5) with time; wherein if said rate of dissolution of solid water treatment product is optimal, then Steps 8) and

9) are optional, if said rate of dissolution of solid water treatment product is not optimal, then Steps 8) and 9) are required;

8) optionally adjusting the preparation of said solid water treatment product, based on the rate of dissolution determined in Step 7), in order to prepare a solid water treatment product with an optimal dissolution rate;

9) optionally repeating Steps 3), 4), 5), 6), 7) and 8) as necessary in order to obtain a solid water treatment product with an optimal dissolution rate.

'840 Patent, col. 12, ll. 33-67, col. 13, ll.1-3.

Independent claim 4 recites a method of treating an industrial water system with a solid water treatment product that has an optimal dissolution rate, comprising the steps of:

a) providing an industrial water system;

b) providing a solid water treatment product, wherein said solid water treatment product has an optimal rate of dissolution;

c) adding from about 1 ppb to about 10,000 ppm of said solid water treatment product, wherein said solid water treatment product has an optimal rate of dissolution, to the water in said industrial water system;

d) allowing said solid water treatment product to dissolve and treat the water in said industrial water system.

'840 Patent, col. 13, ll. 12-28.

Finally, independent claim 7 recites a method for controlling the amount of solid water treatment product with an optimal dissolution rate in an industrial water system:

a) providing an industrial water system;

b) providing a solid water treatment product, wherein said solid water treatment product has an optimal rate of dissolution, wherein said solid water treatment product comprises a fluorescent tracer;

c) adding from about 1 ppb to about 10,000 ppm of said solid water treatment product, wherein said solid water treatment product has an optimal rate of dissolution, to the water in said industrial water system;

d) allowing said solid water treatment product to dissolve and treat the water in said industrial water system;

e) providing a fluorometer;

f) using said fluorometer to measure the fluorescent signal of said fluorescent tracer;

g) correlating said fluorescent signal of said fluorescent tracer with the amount of fluorescent tracer present in the water of said industrial water system;

h) correlating the amount of fluorescent tracer present in the water of said industrial water system with the amount of water treatment product present in said industrial water system;

i) comparing the amount of water treatment product present in the water of said industrial water system with the amount of water treatment product that is optimally present;

j) adjusting the feedrate of solid water treatment product to the water of said industrial water system such that the amount of water treatment product present in the water of said industrial water system is optimal.

'840 Patent, col. 13, ll. 34-37, col. 14, ll. 1-35.

Defendant AP Tech manufactures and sells solid water treatment products for use in industrial water systems. Complaint ¶ 11. Nalco claims that AP Tech's EnduroSolv with duroTrace directly infringes claim 1 of the '840 Patent. Nalco additionally claims that AP Tech has induced the infringement of claims 4 and 7 of the '840 Patent in marketing and selling EnduroSolv to its customers. Doc. No. 22-1 (Nalco's Infringement Contentions).

AP Tech, however, has moved for summary judgment on the grounds that, while it does manufacture a solid water treatment product, its accused product does not have an optimal rate of dissolution. Therefore, according to AP Tech, it does not perform steps 3 through 9 of claim 1. Extrapolating further, AP Tech argues that since claims 4 and 7 require the use of a solid water treatment product with an optimal rate of dissolution, and

the accused product does not have an optimal rate of dissolution, it cannot have induced the infringement of claims 4 and 7.

Nalco responds that during a site visit to AP Tech's manufacturing facility in January 2015, its expert, Dr. Larry Russell, observed AP Tech practicing the claimed method to produce its solid water treatment products. Nalco states, however, that a one-time visit to AP Tech's plant is insufficient to learn about its research and development process or how its manufacturing process has changed over time. Nalco also contends that at least some of the documents produced by AP Tech indicate infringement of the patent-in-suit and that some of the documents show inconsistencies that require further exploration. Nalco argues that it needs more discovery on these issues before the Court rules on AP Tech's summary judgment motion and has filed a Rule 56(d) declaration to that effect. Doc. No. 44. Finally, Nalco disputes AP Tech's contention that claims 4 and 7 require that the solid water treatment product with an optimal rate of dissolution used in those methods be produced according to the method in claim 1. Nalco contends that claims 4 and 7 are not so limited and that the specification discloses the use of solid water treatment products that are not produced according to the method in claim 1.

Nalco also filed a motion to strike the declaration of AP Tech's expert, Colin Frayne, on the grounds that his statements therein are conclusory, lack foundation, are not based on personal knowledge. Doc. No. 45.

AP Tech's reply brief argues that the testing procedure observed by Dr. Russell during the site visit occurred during its quality control process and not during its manufacturing process. AP Tech also contends that Dr. Russell has distorted what he actually observed during the site visit. For instance, AP Tech disputes that it took a

fluorometer reading of its test sample after a specified period of time. In fact, AP Tech notes, during the test observed by Dr. Russell, the solid had already completely dissolved by the time the fluorometer reading was taken because Nalco did not want to take the time to wait for AP Tech to start the testing procedure from the beginning with an undissolved sample.

Nalco then moved to strike AP Tech's reply brief on the grounds that it improperly raised new arguments and cited new evidence for the first time its reply. Specifically, Nalco argues that in its reply brief, AP Tech tried, for the first time, to distinguish its quality control process from its manufacturing process. Nalco also claims that AP Tech relied on evidence that was responsive to its discovery requests but nevertheless has failed to produce. Alternatively, Nalco requests leave to file a sur-reply brief. Nalco also moved to strike AP Tech's response/opposition to its Rule 56(d) motion and its objections to Colin Frayne's declaration on the grounds that these pleadings are not authorized by the local rules of civil procedure.

The outstanding motions have been fully briefed and are ripe for disposition by the Court.

II. Summary Judgment Standard of Review

The law of the regional circuit applies to motions for summary judgment in a patent infringement case. Arthur A. Collins, Inc. v. Northern Telecom, Inc., 216 F.3d 1042, 1047-48 (Fed. Cir. 2000).

The court "shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). An assertion of a undisputed fact must be supported by

citations to particular parts of the record, including depositions, affidavits, admissions, and interrogatory answers. The party opposing a properly supported summary judgment motion "'may not rest upon the mere allegations or denials of his pleading, but . . . must set forth specific facts showing that there is a genuine issue for trial.'" Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986) (internal quotation omitted).

The Court is not duty bound to search the entire record in an effort to establish a lack of material facts. Guarino v. Brookfield Township Trs., 980 F.2d 399, 404 (6th Cir. 1992). Rather, the burden is on the non-moving party to "present affirmative evidence to defeat a properly supported motion for summary judgment," Street v. J.C. Bradford & Co., 886 F.2d 1472, 1479-80 (6th Cir. 1989), and to designate specific facts in dispute. Anderson, 477 U.S. at 250. The non-moving party "must do more than simply show that there is some metaphysical doubt as to the material facts." Matsushita Elec. Ind. Co. v. Zenith Radio Corp., 475 U.S. 574, 586 (1986). The court construes the evidence presented in the light most favorable to the non-movant and draws all justifiable inferences in the non-movant's favor. United States v. Diebold Inc., 369 U.S. 654, 655 (1962).

The court's function is not to weigh the evidence and determine the truth of the matter, but to determine whether there is a genuine issue for trial. Anderson, 477 U.S. at 249. The court must assess "whether there is the need for trial — whether, in other words, there are any genuine factual issues that properly can be resolved only by a finder of fact because they may reasonably be resolved in favor of either party." Id. at 250. "If the evidence is merely colorable, . . . or is not significantly probative, . . . the court may grant judgment." Anderson, 477 U.S. at 249-50 (citations omitted).

III. Analysis

Patent infringement analysis comprises two steps: (1) claim construction to determine the scope and meaning of the asserted claims, and (2) a comparison of the properly construed claims with the allegedly infringing device or method to determine whether the device or method embodies every limitation of the claims. IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1429 (Fed. Cir. 2000). In order to establish direct infringement of a method patent, the patentee must prove that the defendant performs every step of the claimed method. Move, Inc. v. Real Estate Alliance Ltd., 709 F.3d 1117, 1222 (Fed. Cir. 2013). In order to establish induced infringement of a method patent, the patentee must prove that the defendant knowingly induced another to perform every step of the claimed method and that the defendant possessed the specific intent to encourage the other's infringement. Ericsson, Inc. v. D-Link Sys., Inc., 773 F.3d 1201, 1219 (Fed. Cir. 2014).

Finally, while the parties have agreed that no claim construction hearing is needed, and that the claim terms should be given their plain and ordinary meaning, the Court nevertheless has a duty to review and properly interpret the claims. Exxon Chem. Patents, Inc. v. Lubrizol Corp., 64 F.3d 1553, 1556 (Fed. Cir. 1995).

A. Optimal Dissolution Rate

Each of the independent claims at issue in this case recite as an element or limitation of the method that the solid water treatment product have an "optimal rate of dissolution" or an "optimal dissolution rate."

The preamble of claim 1 states that it is a "method of making a solid water treatment product, wherein said water treatment product has an optimal dissolution rate[.]" '840 Patent, col. 12, ll. 33-35. Although "optimal dissolution rate" is in the preamble of the claim,

it nevertheless is a limitation of the claim because it gives meaning to and helps define the claim. In re Paulsen, 30 F.3d 1475, 1479 (Fed. Cir. 1994). Additionally, steps 7 through 9 of claim 1 require repeating the trial and error manufacturing process until a "solid water treatment product with an optimal dissolution rate" is achieved. '840 Patent, col. 12, ll. 57-67, col. 13, ll. 1-3. The methods of claims 4 and 7 both have steps that require "providing a solid water treatment product, wherein said solid water treatment product has an optimal rate of dissolution." Id. col. 13, ll. 18-20, 23-24 (claim 4), col. 14, ll. 2-4, 7-8 (claim 7).

The term "optimal rate of dissolution" does not have a plain and ordinary meaning, or at least not one that is helpful to define this claim. Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed Cir. 2005). Optimal simply means "most desirable or satisfactory.'" WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1584 (1971). "Rate" is a generic noun indicating some relevant quantity measured against time. Id. 1884 (defining "rate," in relevant part, as a "quantity, amount, or degree of something measured per unit against something else (as time)"). "Dissolution" is simply the act of dissolving. Id. 657. But interpreting "optimal rate of dissolution" to mean the "most desirable rate of dissolving" is not helpful. On the other hand, as indicated above, the specification states what "optimal rate of dissolution" means in this patent - it is the rate of dissolving that maintains a relatively constant concentration of the solid water treatment product in the industrial water system until the product completely dissolves. '840 Patent, col. 9, ll. 1-7 ("The optimal dissolution rate is determined based on the general concept that it is desirable for pellets to completely dissolve prior to the addition of subsequent pellets to the water so that a relatively constant product concentration is maintained in the water of the industrial water system."); Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)("The specification acts as

a dictionary when it expressly defines terms used in the claims or when it defines terms by implication."); ("[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term."). In other words, the claimed method controls product concentration through the rate at which the solid water treatment product dissolves in the industrial water system.

B. Arriving at the Optimal Dissolution Rate

The specification of the patent states that the optimal dissolution rate for a solid water treatment product is known to a person of ordinary skill in the art. '840 Patent, col. 9, ll. 46-49.[1] As Dr. Russell explains in his declaration, there is no set or specific value for the optimal rate of dissolution. Instead, the optimal rate of dissolution depends on the type of solid water treatment being used and the type of industrial water system in which the product is to be used. Russell Dec. ¶ 56.

The patent teaches that in order to determine the dissolution rate of the solid water treatment product, it must first be placed in test water. Then, using a fluorometer, the fluorescent signal is measured at regular intervals, with the dissolution rate being determined by analyzing the increase in the fluorescent signal over time. '840 Patent, col. 12, ll. 51-59. In other words, according to the plain language of the claim, determining the actual dissolution rate of the sample product requires at least two measurements of the

[1]This statement in the specification, however, appears to be in direct contradiction to what Nalco told the patent examiner during the patent prosecution process. In attempting to overcome the examiner's rejection of claims 1-9 as being obvious in view of Hoots, et al., Nalco stated that optimal dissolution rates are not known to a person skilled in the art: "The optimal product compositions and delivery rates are not obvious to one skilled in the art due to the impact of system dependent parameters[.]" Doc. No. 32-8, at 80 (emphasis added).

fluorescent signal. Id. ll. 55-56 ("repeating the measurement of fluorescent signal from Step 5) at regular intervals")(emphasis added). Then the actual dissolution rate must be compared to the optimal dissolution rate known to the person skilled in the art and, if they are the same, the method is optionally completed. If they are not the same, a person practicing the invention must start over. Id. col. 12, ll. 59-67, col. 13. ll. 1-3.

As indicated in the site visit video provided to the Court, however, AP Tech took only one measurement of the fluorescent signal of its test sample. Moreover, nothing in that video showed, and none of the documents presently before the Court indicate, that AP Tech calculated the dissolution rate of the test sample. Instead, the video shows that AP Tech used a fluorometer to take a single measurement of the fluorescent signal in the sample once it was completely dissolved to determine the concentration of PTSA in the sample. Dr. Russell concurs that this is what he witnessed. Russell Dec. ¶ 29. The video indicates, therefore, that AP Tech did not practice the step of measuring the fluorescent signal of the sample at regular intervals.

Dr. Russell contends nevertheless that the rate of dissolution may be calculated by working backwards from a single measurement based on the weight of the sample and the length of time it took to dissolve. Russell Dec. ¶ 29. In other words, according to Dr. Russell, the dissolution rate can be determined by dividing weight by time. This procedure, however, is not practicing the step described by the patent to determine the dissolution rate. The claimed method requires measuring the fluorescent signal at regular intervals and then analyzing the increase in the fluorescent signal with time to determine the rate of dissolution. '840 Patent, col. 12, ll. 55-58. Measuring the fluorescent signal once and then calculating a rate of dissolution from that measurement based on the length of time it took

for the sample to completely dissolve is not literally the same as determining the dissolution rate by measuring the fluorescent signal at regular intervals, which by definition would require at least two measurements be taken. Litton Sys., Inc. v. Honeywell, Inc., 140 F.3d 1449, 1454 (Fed. Cir. 1998) (any deviation from the claim precludes a finding of literal infringement). Moreover, the fact that a rate of dissolution could be determined from a single measurement is not evidence that AP Tech actually calculates the dissolution rate of the accused product. Accordingly, the record demonstrates that AP Tech does not literally infringe claim 1.

Moreover, a reasonable juror could not conclude that AP Tech's material data sheets show that AP Tech calculates a dissolution rate of its products. In the main, these data sheets indicate solubility and concentration levels, but nowhere do they report a rate of dissolution. E.g., Doc. No. 52, at 54; compare id. to '840 Patent, col. 11, ll. 41-56; col. 12, ll. 1-15 (reporting release rates of exemplar solid water treatment products in milligrams per minute). AP Tech, therefore, is entitled to summary judgment on Nalco's claim that it literally infringes the method of claim 1 of the '840 Patent.

C. Claims 4 and 7

Claims 4 and 7 of the '840 Patent teach methods to use a solid water treatment product in an industrial water system. Both methods include a step of "providing a solid water treatment product with an optimal rate of dissolution." AP Tech argues that it cannot be liable for induced infringement of claims 4 and 7 because these methods require the use of a solid water treatment product prepared in accordance with the method of claim 1. AP Tech continues that since claims 4 and 7 require the solid water treatment product to be made according to the method in claim 1, and its water treatment product is not made

according to that method, it cannot have induced the infringement of claims 4 and 7. Nalco responds that the solid water treatment product with an optimal rate of dissolution is not limited to one produced according to the method of claim 1. Nalco contends that the specification provides two examples of solid water treatment products with an optimal rate of dissolution that were not prepared according to the method of claim 1 but nevertheless could be used in claims 4 and 7. The Court, however, agrees that claims 4 and 7 require the use of a solid water treatment product that was prepared according to the method in claim 1.

The specification states that the problem with the prior art is that the dissolution rate of a solid water treatment product is unknown, hence "it would be desirable to have the ability to provide a solid water treatment product with an optimal dissolution rate." '840 Patent, col. 3, ll. 42-44. In other words, prior to the claimed invention, it was not possible to provide a solid water treatment product with an optimal rate of dissolution. Stated yet another way, the '840 Patent is not claiming a different method of producing a solid water treatment product with an optimal rate of dissolution (i.e., there were other methods, but this one is novel or better) - but rather that a solid water treatment product with an optimal rate of dissolution had not been invented and can only be produced according to the method of claim 1. Consequently, claims 4 and 7 must use a solid water treatment product that was made according to the method in claim 1 because that is the only way to provide a solid water treatment product with an optimal rate of dissolution.

This conclusion is consistent with the prosecution history of the patent. In fact, Nalco specifically told the patent examiner that a solid water treatment product with an optimal rate of dissolution did not exist prior to the claimed invention - "In those cases where solid

products are used in industrial water systems, optimized product dissolution and delivery based on incorporation of fluorescent material has not yet been performed nor have solid product formulations incorporating fluorescent species for control been created." Doc. No. 32-8, at 80 (emphasis added). It follows then that in order to provide a solid water treatment product with an optimal rate of dissolution, a person wishing to practice claims 4 and/or 7 would have to practice claim 1 as well. Therefore, the "solid water treatment product with an optimal rate dissolution" in claims 4 and 7 must be produced according to the method of claim 1.

Moreover, the Court disagrees with Nalco that the specification discloses two examples of solid water treatment products with an optimal rate of dissolution that are not produced according to the method of claim 1. The specification, rather, explicitly states that the examples show the invention in actual practice: "The following examples are presented to be illustrative of the present invention and teach one of ordinary skill how to make and use the invention." '840 Patent, col. 11, ll. 12-14. Moreover, the tables accompanying the examples indicate measurements of the fluorescent signal at regular intervals. For instance, in Example 1, the fluorescent signal was measured at one point in five-minute intervals. In Example 2, the fluorescent signal was measured at one point in ten-minute intervals. Id. col. Reading all of this information together, a person of ordinary skill in the art would understand that the examples are representative of the method of providing a solid water treatment product with an optimal dissolution rate disclosed by claim 1, and not by some other method.

In summary, the specification and the prosecution history show that the solid water treatment product with an optimal dissolution rate in claims 4 and 7 must be provided

according to the method disclosed by claim 1. Since the record shows that AP Tech does not practice the method in claim 1, AP Tech cannot have induced the infringement of claims 4 and 7. Therefore, AP Tech is entitled to summary judgment on Nalco's claim of induced infringement of those claims.

D. Doctrine of Equivalents

AP Tech also contends that the accused product does not infringe the '840 Patent under the doctrine of equivalents. Nalco incorrectly responds that AP Tech did not move for summary judgment on its claim for infringement under the doctrine of equivalents. It did. See Doc. No. 60, at 15 ("There Is No Genuine Dispute that APT Does Not Infringe Under the Doctrine of Equivalents"). Nalco claims, however, that whether the accused product infringes under the doctrine of equivalents is an issue that must be reserved for the jury because it is a question of fact.

"A finding of infringement under the doctrine of equivalents requires a showing that the difference between the claimed invention and the accused product or method was insubstantial or that the accused product or method performs the substantially same function in substantially the same way with substantially the same result as each claim limitation of the patented product or method." AquaTex Ind., Inc. v. Techniche Solutions 479 F.3d 1320, 1326 (Fed. Cir. 2007). Despite Nalco's contention otherwise, the trial court may grant summary judgment on a claim of infringement under the doctrine of equivalents on a proper record. Id. at 1328-30. Moreover, when faced with a motion for summary judgment on infringement under the doctrine of equivalents, the plaintiff has the burden to "provide particularized testimony and linking argument as to the 'insubstantiality of differences' between the claimed invention and the accused device or process, or with

respect to the function, way, result test when such evidence is presented to support a finding under the doctrine of equivalents." Id. at 1328 (quoting Texas Instruments, Inc. v. Cypress Semiconductor Corp., 90 F.3d 1558, 1567 (Fed. Cir. 1996)). Moreover, [s]uch evidence must be presented on a limitation-by-limitation basis." Id. (emphasis in original).

In this case, Nalco has not presented particularized evidence, on a limitation-by-limitation basis, indicating an insubstantiality of differences between the accused product and the claimed methods, or that the accused product satisfies the function, way, result test as to any of the claims. Accordingly, AP Tech is entitled to summary judgment on Nalco's claim of infringement under the doctrine of equivalents.

IV. Nalco's Rule 56(d) Declaration

Nalco argues that it needs additional discovery from AP Tech before responding fully to the motion for summary judgment. Specifically, Nalco wants to discover AP Tech's "completed batch sheets, documents relating to the research and development of duroTrace, communications with third parties relating to the '840 patent and duroTrace, and further documents relating to testing and analysis of APT's products." Doc. No. 50, at 22.

When a party moves for summary judgment, the non-movant has an opportunity to show "by affidavit or declaration that, for specified reasons, it cannot present facts essential to justify its opposition.[.]" Fed. R. Civ. P. 56(d). If the non-movant makes that showing, the trial court may defer consideration of the motion or permit additional time to obtain affidavits or declarations, or take discovery. Id. In determining whether to grant a motion under Rule 56(d) in a patent case, the law of the regional circuit applies. Exigent Tech., Inc. v. Atrana Solutions, Inc., 442 F.3d 1301, 1309-10 (Fed. Cir. 2006). In its Rule 56(d) affidavit, the non-movant must detail with specificity the additional discovery needed, what material facts

may be uncovered, and why the information has not been previously discovered. Siggers v. Campbell, 652 F.3d 681, 696 (6th Cir. 2011); Murphy v. Grenier, 406 Fed. Appx. 972, 976 (6th Cir. 2011). The non-movant cannot carry its burden under Rule 56(d) by speculating that some relevant evidence to support its opposition might be turned up through additional discovery. Saulsberry v. Federal Exp. Corp., 552 Fed. Appx. 424, 427 (6th Cir. 2014). In this case, the Court concludes that Nalco has not shown that allowing additional discovery will enable it to respond appropriately to AP Tech's motion for summary judgment. More specifically, the Court concludes that Nalco only speculates that additional discovery will uncover evidence supporting its infringement claims.

Nalco contends that the site visit supports its infringement contentions, but in any event reflects only AP Tech's current manufacturing processes and provides no evidence of how it previously manufactured its water treatment product. Nalco also believes that AP Tech may have altered its manufacturing processes because it posted a YouTube video which depicts a trade show banner that said, "Re-introducing Duro-Trace." As explained above, however, the site visit video clearly shows that AP Tech does not determine an optimal rate of dissolution according to the patented method because it does not measure the increase in signal of the fluorescent tracer at regular intervals. AP Tech takes one measurement of the fluorescent signal. The YouTube video notwithstanding, Nalco has not provided any reasonable basis to conclude that the site visit does not represent AP Tech's historical manufacturing procedure. The YouTube video itself does not justify what clearly would amount to a fishing expedition into AP Tech's records. The fact that AP Tech "re-introduced" duro-Trace does not plausibly suggest a change in manufacturing

processes. But even if it does, it does not plausibly suggest a change from an infringing manufacturing process to a non-infringing manufacturing process.

The Court also disagrees that AP Tech's batch sheets, pump charts, and public product information sheets indicate that AP Tech calculates an optimal rate of dissolution. Based on these materials, therefore, Nalco is not entitled to further discovery from AP Tech in order to respond to the motion for summary judgment. While Nalco claims that two versions of the batch sheets produced by AP Tech contain inconsistencies, Nalco has not explained what the inconsistencies are or why they justify further discovery. See Doc. No. 44, at 2-3. In any event, the batch sheets themselves do not indicate that AP Tech records *any* dissolution rates during its manufacturing process. See Russell Dec. Exs. C & D (Doc. No. 50-1, at 37-42). The product information sheets, e.g., Russell Dec. Ex. J (Doc. No. 50-1, at 54), indicate maximum solubility at a given temperature. But solubility itself is not a rate. Solubility simply reflects the maximum amount of a particular solid that can be dissolved in a given amount of solvent- in this case, water. JOHN T. MOORE, CHEMISTRY FOR DUMMIES 138 (2011). Thus, the product information sheets are not evidence of infringement justifying further discovery before requiring Nalco to respond to the motion for summary judgment.

Lastly, the pump chart, Russell Dec. Ex. AA (Doc. No. 50-1, at 116) does not reasonably indicate infringement of the patent-in-suit. Somewhat similar to the product information sheet, the pump chart indicates how much of the water treatment product should be used based on the volume of water flowing through the system. In other words, the pump chart indicates concentration, not the rate of dissolution. The pump chart does

not justify allowing further discovery before requiring Nalco to respond to the summary judgment motion.

Finally, Nalco is not entitled to discovery from AP Tech's customers in order to oppose the motion for summary judgment on indirect or induced infringement of Claims 4 and 7. As explained above, Claims 4 and 7 require the use of a solid water treatment product with an optimal rate of dissolution. AP Tech, however, does not determine an optimal rate of dissolution for its water treatment products. Thus, whether AP Tech otherwise encourages customers to use its products in their industrial water systems is irrelevant.

For all of the above reasons, therefore, Nalco's Rule 56(d) declaration and/or motion is not well-taken.

V. Nalco's Objections and Motions to Strike

Nalco filed objections to AP Tech's motion for summary judgment (Doc. No. 45). Specifically, Nalco objects to AP Tech's reliance on the affidavit of its expert, Colin Frayne, on the ground that Frayne's declaration is conclusory and not based on personal knowledge. The Court finds that Nalco's motion to strike is moot, however, because it has not relied on Frayne's affidavit in ruling on the motion for summary judgment.

Nalco also moves the Court to strike certain portions of the affidavit of Andrew Kinnett that AP Tech filed with its reply brief on the grounds that it presents new evidence and argument beyond the scope of its moving papers and Nalco's opposition. (Doc. No. 63). Alternatively, Nalco requests permission to file a sur-reply brief. Nalco's specific grievance here is that Kinnett for the first time contended that the site visit demonstrated AP Tech's quality control process and not its manufacturing process, with the suggestion

being that activities not involved in manufacturing do not infringe the patent-in-suit. The Court finds the motion to strike Kinnett's reply affidavit not well-taken and/or moot. Conceding that AP Tech raised the quality control argument for the first time in reply, the Court did not rely on any distinction between quality control and manufacturing to rule on the motion for summary judgment. The basis for the Court's ruling, rather, was that the record shows that AP Tech does not calculate an optimal rate of dissolution for its solid water treatment product because it only takes one measurement of the fluorescent tracer in the test water.

Finally, Nalco wants the Court to strike the alleged "unauthorized briefs" that AP Tech filed in response to its objections to Colin Frayne's affidavit and its Rule 56(d) declaration. Nalco claims that these pleadings filed by AP Tech are not authorized by any Federal or Local Rule of Civil Procedure and, moreover, complains that they were filed without leave of Court.

Nalco elevates form over substance. Nalco filed "objections" to AP Tech's motion for summary judgment and a "declaration" in support of allowing additional discovery. In substance, however, these pleadings were motions requesting some form of action by the Court. It would be unusual, and probably inappropriate, for a court not to hear from the proponent of evidence or testimony before ruling on an objection to admissibility. Not much more than that needs to be said. And, it was entirely appropriate for AP Tech to file, and for the Court to consider, AP Tech's position before ruling on Nalco's Rule 56(d) declaration. It is surprising to the Court that Nalco believes otherwise. Courts, including this one, routinely consider memoranda in opposition to Rule 56(d) motions or declarations. See, e.g., In re Bill of Lading Transmission & Processing Sys. Patent Lit., Case No. 1:09-

MD-2050 (S.D. Ohio)(Beckwith, S.J.) (Doc. Nos. 242, 249, 251, 253, 255); Chubb Custom Ins. Co. v. Grange Mut. Cas. Co., No. 2:07–CV–1285, 2012 WL 1340369 (S.D. Ohio Apr. 17, 2012) (King, M.J.); Wilcox v. Career Step, LLC, No. 2:08–CV–0998, 2012 WL 5997201, at * 3 (D. Utah Nov. 30, 2012); Martin v. Masuret, No. 2:10–cv–0189, 2013 WL 315244, at *1 (E.D.Cal. Jan. 25, 2013); Kermode v. University of Miss. Med. Ctr., No. 3:09–CV–584–DPJ–FKB, 2011 WL 2619096 (S.D.Miss. July 1, 2011); Atigeo LLC v. Offshore Ltd. D, No. C13–1694JLR, 2014 WL 1494062 (W.D.Wash. Apr. 16, 2014).

Nalco's motion to strike and/or to file a sur-reply brief is not well-taken and is **DENIED.**

Conclusion

In conclusion, Defendant AP Tech's motion for summary judgment is well-taken and is **GRANTED**. Plaintiff Nalco Company's complaint is **DISMISSED WITH PREJUDICE.** Nalco's motion to strike is not well-taken and is **DENIED.** The motions to modify and/or vacate the case management order are **MOOT**.

IT IS SO ORDERED

Date July 27, 2015

s/Sandra S. Beckwith
Sandra S. Beckwith
Senior United States District Judge